

Amendment  
Serial No. 10/078,952

Docket No. PHNL010143

### REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-10 are pending and stand rejected.

Claims 1 and 6 have been amended.

The drawings are objected to because the character "24" is referred to as an equalizer in Figures 1 and 2, a multiplier in Figure 3 and an adder in Figures 5, 6 and 7 and because the label "29" in Figure 3 designates the output of "40" and the input to "30."

Applicant thanks the examiner for noting the use of label "24" and has removed this label as a reference as a multiplier and an adder. However with regard to the use of label 29, applicant elects not to amend the drawings as they illustrate how the estimate of the modulated derivatives are provided to the multiplier 30 and then provided to the mixer 46.

The drawings are further objected to because they refer to labels which are not mentioned in the specification.

Applicant again thanks the examiner for his observation. However, applicant believes that the drawings show well-known components in RF technology and hence one skilled in the art would understand the elements shown without any need for a detailed description.

Provided herein are new drawings, properly annotated as Replacement Sheets, amended in red ink, to show the amendments made to the drawings.

Applicant respectfully requests entry of the amended drawings and withdrawal of the objection.

The Abstract is objected to because it includes legal phraseology (e.g., comprises).

Applicant thanks the examiner for his observation and has carefully reviewed the Abstract. However, contrary to the reason stated in the Office Action, it is believed that the use of the term "comprises" in the context of the Abstract is appropriate and does not represent legal phraseology. Rather the term in this context refers to the inclusion of the

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noted items. For example, the receiver comprises, i.e., includes, a channel estimator and an equalizer.

Applicant, however, notes that the Abstract includes the phrase "Fig. 6," and has removed this term from the Abstract.

Having amended the Abstract, it is submitted that the Abstract is in a form consistent with that of current U.S. Patent Office practice and respectfully requests the objection be withdrawn.

The specification is objected to for lacking section headings.

Applicant respectfully submits that 37 CFR §1.77(b) discloses a *suggested* format for the arrangement of the disclosure. Applicant respectfully submits that the present disclosure follows the suggested format where applicable. Applicant respectfully submits that section headings are suggested but not required, as 37 CFR §1.77(c) clearly states the sections defined in paragraphs (b) (1) through (b) (11) "should" be preceded by a section heading. Applicant respectfully declines to amend the disclosure to include the suggested headings at this time.

With regard to the failure to describe the circuits shown in Figures 3, 5, 6 and 8 applicant respectfully disagrees with the objection. Figures 3, 5, 6 and 8 represent different embodiments of invention and are described with regard to the signals  $Z_1$ ,  $Z_2$ ,  $Z_3$  and  $Z_4$ , which are determined by the processing described on page 12, line 4-page 13, line 13. Applicant respectfully submits that the written description provides sufficient disclosure for one skilled in the art to practice the invention claimed.

For at least this reason, applicant respectfully requests withdrawal from the objection.

With regard to lacking consistency in the use of the term " $d_k$ ," applicant respectfully disagrees. The term " $d_k$ " is referred to as "the (vector of) derivatives ... the values on the diagonal ... depend on the ... choice of the reference time instant  $t$ " on page 6, lines 19-21. Applicant notes that in the specification each reference to the term " $d_k$ " refers to a derivative and only one derivative is referred to or defined. Hence, subsequent references to the term " $d_k$ " as "derivative," "time derivative" or "time domain derivative" are sufficient for one skilled in the art to understand and appreciate the reference to "derivative" without having to specifically state the term each time. Applicant,

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accordingly, elects not to amend the specification merely to repeat terminology that would be clear to one skilled in the art.

For the remarks above, applicant respectfully requests that each of the objections be withdrawn.

Furthermore, the terms "derivate," "time derivate" and "time domain derivate" are sufficiently clear such that one skilled in the art would understand and appreciate that the terms may be interchanged without having to specifically state the term each time. Accordingly, applicant respectfully requests that each of the objections be withdrawn.

Claims 2-5 and 7-10 stand rejected under 35 USC 112, first paragraph for failing to comply with the enablement requirement.

Applicant respectfully disagrees with and explicitly traverses the reason for rejecting the claims. With regard to claim 2, for example, this claim depends from claim 1, which describes a receiver comprising a channel estimator. Claim 2 further limits the receiver to be a feedback-decision receiver and that the illustrated filters represent the channel estimator. This is clearly stated in the written description on page 14, lines 13-16, which state "[i]t appears that several implementations refines [sic] are possible as are shown in Figure 6. Here the inverse of ... is implemented as a Finite Impulse Response FIR filter. The second filter  $M_7$  is implemented as an IIR smoothing filter. Lastly, an FF-weighting -FFT filter is applied to create an estimate of the ICI."

Accordingly, it is believed that the written description provides sufficient disclosure for the subject matter recited in the claims.

With regard to claim 7, this claim recites subject matter similar to that recited in claim 2 and was rejected for the same reason used in rejecting claim 2. Thus, for the remarks made in response to the rejection of claim 2, which are also applicable in response to the rejection of these claims, and reasserted, as if in full, herein, applicant submits that the reason for rejecting claim 7 has been overcome and the rejection can no longer be sustained. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

With regard to the remaining claims these claims ultimately depend from claim 2 and 7, respectively. Accordingly, these claims are also allowable by virtue of their dependency from an allowable base claim.

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Claims 1-10 stand rejected under 35 USC 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the invention. With regard to claims 1-5 it is unclear what comprises the transmission system recited in claim 1. With regard to claims 1 and 6 the claims do not recite any circuitry or element for performing the multiplication.


Applicant respectfully disagrees with and explicitly traverses the reason for the rejection. However, in the interest of advancing the prosecution of this matter the claims have been amended to more clearly state the invention to state the receiver comprises a channel estimator and an equalizer which comprises an NxN leakage matrix and is implemented in a specific manner.

Having amended independent claims to more clearly state the invention, applicant submits that the reason for the rejection has been overcome. Applicant respectfully requests withdrawal of the rejection and allowance of the claims.

For all the foregoing reasons, it is respectfully submitted that all the present claims are patentable in view of the cited references. A Notice of Allowance is respectfully requested.

Respectfully submitted,

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